AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

COMPLETE LISTING OF THE CLAIMS:

Claims 1-3 : (Canceled)

Claim 4 : (Currently Amended) A phase detector, comprising: at least two series-connected diodes; a repeating coil for feeding a reference signal to the diodes; a decoupling network via which an input signal is placed on the diodes, and an output signal is tapped off the diodes; and adjustable reactances between the diodes and the repeating coil for balancing respective voltages on the diodes in order to minimize variations in the output signal during changes in ambient temperature.

Claim 5 : (Previously Presented) The phase detector according to claim 4, wherein the decoupling network includes resistors and capacitors.

Claim 6 : (Previously Presented) The phase detector according to claim 4, and working resistors connected in series with the diodes, both working resistors being connected together at a connection point with a fixed potential, and feed lines between the repeating coil and the diodes, each feed line having at least one of the reactances therein and being connected between a respective diode and a respective working resistor.

Claim 7 : (Previously Presented) The phase detector according to claim 4,wherein the reactances are capacitors.

Claim 8 : (Previously Presented) The phase detector according to claim 4, wherein the reactances are inductors.

Claim 9 : (Previously Presented) The phase detector according to claim 4, wherein the reactances are capacitors and inductors.

Claim 10 : (Previously Presented) The phase detector according to claim 4, wherein the repeating coil is adjustable for balancing the voltages on the diodes.

Claim 11 : (Previously Presented) The phase detector according to claim 4, wherein the repeating coil is a transformer.

Claim 12 : (Previously Presented) The phase detector according to claim 6, wherein the fixed potential is ground.